AA

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/437,418	11/10/1999	SAID KARBASSI	M10-25447	7959

128 7590 07/21/2003

HONEYWELL INTERNATIONAL INC.
101 COLUMBIA ROAD
P O BOX 2245
MORRISTOWN, NJ 07962-2245

EXAMINER	
MARTIR, LILYBETT	
ART UNIT	PAPER NUMBER
2855	

DATE MAILED: 07/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Offic Action Summary	Application No.	Applicant(s)	
	09/437,418	KARBASSI ET AL.	
	Examiner	Art Unit	
	Lilybett Martir	2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 30-57 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 30-32,44-46 and 51-54 is/are rejected.

7)☒ Claim(s) 33-43,47-50 and 55-57 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over IP (Pat. 6,040,625) in view of Lutenegger et al. (Pat. 4,411,160) or in view of Narita et al. (EP0779503A2).

- With respect to claim 30, Ip discloses a housing 40 inherently having an upper or top surface and a well as noted in Figure 6, and a force-sensing element comprised by element 20. Ip fails to disclose the upper surface of the housing and the upper element of the force-sensing element being coplanar. Lutenegger et al. teaches a transducer element 26 arranged within a mounting 12 in a manner so that the upper surface of the housing 12 and the upper element of the force-sensing element 26 are essentially co-planar (Col. 2, lines 52-57). Narita et al. also discloses the upper surface of the housing 4 and the upper element of a sensing element 1 being coplanar. Since it has been held that rearranging parts of an invention involves only routine skill in the art. (In re Japikse, 86 USPQ 70), it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the sensor package of Ip using the teachings of either

Lutenegger et al. or Narita et al. by arranging the upper surface of the housing and the upper element of the sensing element being coplanar are essentially co-planar to more directly expose the sensing element to the parameters being detected therefore increasing the accuracy and reliability of the arrangement.

- With respect to claim 31, Ip discloses a force sensor arrangement 20 that has a thickness and a supporting shelf structure C. Ip fails to disclose the sensor arrangement being supported by a shelf in the housing. Narita et al. discloses a sensor arrangement where the housing includes a shelf 3 which supports a sensing element 1 within a well as noted in Figures 6 and 7, such that the upper element surface of 1 and the upper housing surface of 4 are coplanar. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the sensor package of Ip using the teachings of Narita et al. by utilizing a shelf means to support the sensing structure in a secure and effective manner and arranging the upper surface of the housing and the upper element of the sensing element being coplanar are essentially co-planar to more directly expose the sensing element to the parameters being detected to therefore increase the accuracy and reliability of the arrangement.
- With respect to claim 32, Ip discloses a force sensor arrangement 20 that has a thickness and a supporting shelf structure C. Ip fails to disclose the sensor arrangement being supported by a shelf in the housing such that the depth of

the shelf and the thickness of the sensing element are substantially similar. Narita et al. discloses a sensor arrangement where the housing includes a shelf 3 which supports a sensing element 1 that have substantially similar depth/thickness within a well as noted in Figures 6 and 7. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the sensor package of Ip using the teachings of Narita et al. by utilizing a shelf means both having a substantially similar depth and thickness to therefore support the sensing structure in a secure and effective manner.

2. Claims 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over IP in view of Lutenegger et al. or Narita et al. and further in view of Murakami et al. (Pat. 5,130,500).

- With respect to claim 44, Ip, as modified by either Lutenegger et al. or Narita et al. above, teaches the utilization of a covering portion 60. Ip fails to disclose that the covering is a membrane that provides electrical insulation. Murakami et al. teaches a sensor arrangement that comprises a top frame made of plastic and therefore non-conducting material as are elements 12-13 and 15. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the sensor package of Ip using the teachings of Murakami et al. to therefore protect an electrical sensing device from unwanted currents to therefore improve its reliability.

- With respect to claim 45, Ip teaches the utilization of a covering portion 60. Ip fails to disclose that the covering is a membrane that provides electrical insulation. Murakami et al. teaches a sensor arrangement that comprises a top frame made of plastic and therefore protecting material as are elements 12-13 and 15. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the sensor package of Ip using the teachings of Murakami et al. to protect the electrical sensing device from unwanted environmental hazards to therefore improve its reliability and durability.

3. Claims 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over IP in view of Narita et al.

- With respect to claim 46, Ip discloses a housing 40 with a well and a shelf C as noted in Figures 1 and 6, and a force-sensing element comprised by element 20. Ip does not disclose the shelf supporting the sensing element and he also fails to disclose the upper surface of the housing and the upper element of the force-sensing element being coplanar. Lutenegger et al. teaches a transducer element 26 arranged within a mounting 12 in a manner so that the upper surface of the housing 12 and the upper element of the force-sensing element 26 are essentially co-planar (Col. 2, lines 52-57). Narita et al. also discloses the upper surface of the housing 4 and the upper element of a sensing element 1 being coplanar. Since it has been held that rearranging parts of an invention involves only routine skill in the art. (In re

Japikse, 86 USPQ 70), it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the sensor package of Ip using the teachings of either Lutenegger et al. or Narita et al. by arranging the upper surface of the housing and the upper element of the sensing element being coplanar are essentially co-planar to more directly expose the sensing element to the parameters being detected therefore increasing the accuracy and reliability of the arrangement. Narita et al. teaches a sensor arrangement where the housing includes a shelf 3 which supports a sensing element 1 that have substantially similar depth/thickness within a well as noted in Figures 6 and 7. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the sensor package of Ip using the teachings of Narita et al. by utilizing a shelf means both having a substantially similar depth and thickness to therefore support the sensing structure in a secure and effective manner.

4. Claims 51-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over IP in view of Luteneger et al. and Narita et al. as applied to claims 46 above and further in view of Murakami et al.

- With respect to claim 51, Ip teaches the utilization of a covering portion 60. Ip fails to disclose that the covering is a membrane that provides electrical insulation. Murakami et al. teaches a sensor arrangement that comprises a top frame made of plastic and therefore non-conducting material as are

elements 12-13 and 15. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the sensor package of Ip using the teachings of Murakami et al. to protect an electrical sensing device from unwanted currents to therefore improve its reliability.

- With respect to claim 52, Ip teaches the utilization of a covering portion 60. Ip fails to disclose that the covering is a membrane that provides electrical insulation. Murakami et al. teaches a sensor arrangement that comprises a top frame made of plastic and therefore protecting material. As are elements 12-13 and 15. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the sensor package of Ip using the teachings of Murakami et al. to protect an electrical sensing device from unwanted environmental hazards to therefore improve its reliability and durability

5. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ip in view of Frederick .

- With respect to claim 53, Ip teaches applying a force-sensing element 20 to a housing part 40 (Col. 4, lines 11-12). Ip does not disclose attaching the sensing element so that the edge of the outwardly facing element surface abuts or lies adjacent an edge of the outwardly facing housing surface and attaching the sensing element. Luteneger et al. teaches the arrangement of a sensing element 26 so that the edge of the outwardly facing element surface

abuts or lies adjacent an edge of an outwardly facing housing surface 12, said sensing element being attached to the housing as noted in Figure 1 (Col. 2, lines 52-57). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the sensor package of Ip using the teachings of Lutenegger et al. by securing the sensing element against loss or displacements that may cause malfunction.

6. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ip in view of Lutenegger et al. as applied to claim 53 above and further in view of Narita et al.

- With respect to claim 54, Ip discloses a housing 40 with a well and a shelf C as noted in Figures 1 and 6, and a force-sensing element comprised by element 20. Ip does not disclose the shelf supporting the sensing element. Narita et al. teaches a sensor arrangement where the housing includes a shelf 3 which supports a sensing element 1 that have substantially similar depth/thickness within a well as noted in Figures 6 and 7. element being attached to the housing as noted in Figure 1 (Col. 2, lines 52-57). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teachings of the sensor package of Ip using the teachings of Lutenegger et al. by utilizing a shelf means both having a substantially similar depth and thickness to therefore support the sensing structure in a secure and effective manner, therefore rendering said device more durable and reliable.

Allowable Subject Matter

7. Claims 33-43, 47-50 and 55-57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, or if the limitations of any of said claims are included in the base claim including the limitations of any intervening claims.

Response to Arguments

8. Applicants amendments raised new issues that made necessary the new art to be applied and therefore, the arguments presented against Ip in view of Frederick are said to be moot due to the new grounds of rejection. Applicant's arguments have been addressed in the above-presented rejection. And, for the purpose of clarification and based on applicant's arguments, there is a close relationship between Force and acceleration as stated in commonly known Physics equation F=ma (Force = mass x acceleration).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

10. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilybett Martir whose telephone number is (703)305-6900. The examiner can normally be reached on 9:00 AM to 5:30 PM.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (703)305-4816. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3432 for regular communications and (703)305-3432 for After Final communications.

13. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

LM

Lilybett Martir
Examiner
Art Unit 2855

LCM
July 11, 2003

EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800